UNITED
NATIONS

A

General Assembly

Distr.
GENERAL

A/AC.105/669
12 December 1996

ENGLISH
ORIGINAL: SPANISH

COMMITTEE ON THE PEACEFUL
USES OF OUTER SPACE

Note verbale dated 6 December 1996 from the Permanent Mission of Chile addressed to the United Nations Office at Vienna

The Permanent Mission of Chile to the International Organizations in Vienna presents its compliments to the United Nations Office at Vienna and in relation with the falling of the Russian space probe Mars 96 in the South-East Pacific Ocean area has the honour to transmit as an annex information originating from the Russian Federation that has come to the knowledge of the Government of Chile.

The Permanent Mission of Chile takes this opportunity to renew to the United Nations Office at Vienna the assurances of its highest consideration.

Vienna, 6 December 1996

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ANNEX

As has already been announced, the "Mars 96" space probe launched on 16 November 1996 did not succeed in reaching the flight trajectory to Mars and remained in a terrestrial orbit. On 17 November 1996 (Moscow time) the probe re-entered the Earth's atmosphere and terminated its existence on breaking up. The fragments of the probe and of the propulsion stage which did not burn out fell, as we said earlier, into the waters of the Pacific Ocean. Information is now reaching us that some fragments of the "Mars 96" probe may have fallen on the territory of some South American States. In the framework of the work of the special committee for investigation of the causes of the damage occurring during the launch, an additional analysis was made of the trajectory measurement data obtained during the last phase of the flight of "Mars 96" after its separation from the propulsion stage, as well as a modelling of its re-entry into the atmosphere. The results of the analysis carried out on the basis of the telemetry and measurement data confirm our initial conclusions concerning the possible time at which the fragments of the probe fell into the waters of the Pacific Ocean in the region of the Chilean coast and the area in question. On re-entering the atmosphere, under the action of mechanical forces and heat, the "Mars 96" probe broke up and burned up almost completely. Only some elements of the probe were able to fall onto the Earth's surface, including the radioisotope-based power sources, the construction of which ensures intactness and hermeticity under extreme conditions, as required by United Nations General Assembly resolution 47/68 of 14 December 1992 and by national standards of radiation safety. In that context, we appreciate the concern of your Government, because it is related to the assessment of the possible consequences of the falling of radioactive materials on board of the probe. As we understand it, you for your part are concerned above all at the possibility of radioactive contamination produced by the radioisotope power sources and by the probe itself in the event that fragments of it should have fallen in the territory of the countries of South America. Accordingly, the competent bodies of the Russian Federation have provided the following information.

Sources of heat and electricity of the "Mars 96" probe were based on the special power capsules containing a minimum quantity of radioactive material (plutonium-238). The design of each capsule incorporates two containments: the first against the aggressive action of the external environment, the second (force containment) against thermo-mechanical forces. The capsule is hermetically sealed. The power capsules are designed and pass tests on resistance to aggressive action in accident circumstances, including: high temperatures during movement in the atmosphere; the action of chemicals that appear after destruction of the fuel system or in other emergency situations; explosions; impact on the solid surface of the Earth; penetration into the soil, or immersion in fresh or salt water (no corrosion). The power capsules passed all tests on land in possible accident circumstances and are certified to conform to the requirements of national and international documents on radioactive safety. The hermetic sealing of the capsules cannot be broken, so that the threat of radioactive contamination of the soil or ocean waters is ruled out.

On 2 December 1996, a meeting will be organized in the Russian Space Agency between Mr. Yuri Koptev, Director of the Agency, and the Ambassadors of Chile, Peru, Bolivia and Argentina to give them information on the "Mars 96" probe and the measurements taken during its construction to ensure its radioactive safety. We are willing to reply to questions.